management by both medical and surgical means if increased survival of patients with cardiogenic shock is to be expected.

In all cases of surgical approaches to the sequelae of myocardial infarction, exacting studies including coronary arteriography and cardiac catheterization are mandatory to assess the need not only for removal of aneurysms or repair of septae or valves, but for delineating the extent of the underlying coronary arterial disease for treatment.

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Valve Replacement

It seems quite obvious that the tendency should be to the physiologic where cardiac valve replacement is concerned. Prosthetic valve substitutes have been used over a ten-year period and have done adequately. Their most significant drawbacks are thrombo-embolism (40-50 percent incidence in five years), mechanical failure, ball variance, and the need for constant use of oral anticoagulants. Commendable persistent valve improvement and adjuncts to anticoagulant programs have helped but not significantly over the long-term follow-up.

Non-physiologic homograft preparations, freeze dried, beta propriolactone fixed, irradiated, etc., reduced these tissues to simple non-viable foreign bodies which do not withstand the trauma of blood flow and the test of time.

The viable, sterile, fresh state aortic valve allograft may be placed freehand in the aortic area or sewed onto a valve support ring and used in all intracardiac valve positions. Anticoagulants are required for only six weeks, a time when all exposed fabric is covered by neoendothelium. The function surpasses the prosthesis by showing less orifice gradient. Thrombo-embolism incidence may be extrapolated to 2 percent in 30 years. Tissue valve procurement is at times made difficult by controlling authorities. Sterility of the tissue is easily obtained. Rejection, if it does occur at all, is of no hemodynamic consequence.

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Intravenous Hyperalimentation

The nutritional maintenance of patients for protracted periods exclusively by intravenous alimentation is now becoming an accepted and routine therapeutic measure. Indications for the hyperalimentation regime have extended from patients with severe alimentary disabilities (*e.g.*, massive resections, obstructing lesions, inflammatory disease) to a host of debilitating illnesses (fistulas, extensive burns, massive infections) whose metabolic demands very often exceed the capacity of the normal alimentary route. The recognition of the need for careful skin preparation and for sterile technique during catheter insertion has established infraclavicular percutaneous subclavian catheterization as a safe and effective route for long-term central venous infusions.

The basic nutrient solution consisting of 20 percent glucose and 5 percent fibrin hydrolysate satisfies the requirement of 150 calories per gram of nitrogen needed for proper utilization and protein synthesis. Other necessary additives are 50 mEq of sodium chloride and at least 40 mEq of potassium chloride per liter, together with multivitamin preparations. Magnesium (4 to 8 mEq per day) is a frequent requirement, as are calcium and phosphorus which should be supplied when serum levels indicate early depletion. Though very often supplied by plasma or blood transfusions, trace minerals such as zinc, cobalt, copper